High Speed, Whether Of Man or Vehicle, Eats Up Vital Tissue

Whether it is a human being or a piece of machinery there are two important factors governing its life—speed and load, or burden. Some of us, like certain pieces of machinery, are so constituted that we can go beyond the normal speed of living for a short while. That brings into action our reserve energy, but we cannot work at top speed continuously without using up that reserve completely and then collapsing. A racing car is purposely designed to run at high speed, but it can do so for only five or six hours and then it is ready for complete overhauling. Speed wears away the moving parts, it changes molecular structures, it bends heavy and otherwise stiff steel shafts. Speed may be converted into the antithesis of old age. A writer in Motor makes this logical comparison between men and motor cars. Mariners are noted for their long average span of life. They work at a fairly slow, even pace; they eat slowly, they are methodical. They rarely work or play at high speed, for their surroundings indicate and suggest ordinary, consistant living and acting. The dweller in the big city whose habits are such as to keep him working and playing at high speed does not live to the ripe old age of the sea-faring brother. The speed of the city reduces the average life to something like forty-two years.

Men and Cars.

These types of men may be compared directly with the racing car and the passenger car, the one a short-lived, fast vehicle and the other designed for normal operation over a long period. But a passenger automobile, though designed for normal operation over a long period, is all too frequently strained, almost to the limit, by excessive speed and load. If these two never existed in its life for any great period, the car would last twice as long as the average now indicates. It is very true that it possesses the reserve to go fast and it has the necessary safety factors in its structure to withstand overburden, but in time, all too short a time, the machine breaks down. Sometimes there is warning as there is in a man. He gets slightly sick, then he becomes a little worse and can do less useful work, then he is confined to bed, then he dies. In the motor car slight wear at first predicts impending breakage, then excessive wear comes, causing many parts to require replacement. In the motor car just so many parts can be replaced so many times and then the whole machine is useless and even during its life of speed it becomes expensive to operate because the servicing is high, its broken down structure needs more help and attention in the form of fuel, oil and repairs—but then it is too late to stop the ever-increasing ravages of accelerated wear.

When a motor car is new the owner is told not to drive it more than 20 or 25 miles per hour for the first 500 miles. This is to allow the stiff, closely-fitted parts to wear-in well. If made to work at excessive speeds the parts will not lubricate well, heat becomes too high and the metal wears rapidly. But speed in any kind of a car, new or old, is just as harmful. Slippery oil is provided for every moving part so that the metals will not come together to wear, but excessive speed so interferes with lubrication as to nullify it.

Burning Up Cars.

Passenger car engines are not designed for sustained high speed, yet how many drivers on the open road will hold the car at 40 to 50 or even 55 miles per hour for as far as the road permits. Even stretches of 2 miles will cause damage to the movnig parts. In some engines it is possible to do $150 worth of damage by "burning" a set of wrist pins, in running 4 or 5 miles at high speed.

It is natural for the driver with a fine stretch of concrete road ahead of him, to "open her up," but let your better judgment rule and consider the possible damage to the car. In Brooklyn, N. Y., there is an old four-cylinder air-cooled car that was made ni 1904.

The car has run upwards of 400,000 miles and is still running. The man who owns it is old, and he operated the car in somewhat the same fashion as he conducts his own life. The car has never been run faster than thirty miles per hour at any time, on rough roads the speed is reduced to that of walking. The owner is never in a hurry. That 1904 model will last another 100,000 miles if the same care is taken in operating it and lubricating and adjusting it. A French Lavassor single-cylinder car is thirty years old. No record has been kept of the mileage, but the abbe who owns it has used it practically every day of its thirty-year life so far—and the car is still running. It is not a car that is capable of high speed, being one of the earliest models built by the French manufacturer, but even if it were, its owner would not press it.

Speed is Destruction.

Speed under ideal conditions (perfect lubrication and fit of the parts) is, as we can show, destructive of life in an automobile, so how much more destructive is speed under unfavorable conditions. In this category we may place bad lubrication due to a worn oil pump, worn bearings, or because of dirty oil or the wrong grade of oil, or perhaps cheap oil that breaks down and does not lubricate well.

This applies not alone to the engine and its accessories, but to the clutch, transmission, universal joints, axles, wheels and all other moving parts. The average car owner is not so particular about having the wheels' bearings packed with fresh lubricant at least twice each year. He lets this operation go until the bearings give trouble, and they give trouble because they run hot and fall to pieces. These bearings run at high speed even when your car is traveling at thirty miles per hour, and unless lubricant of the right kind always is present, excessive heat and wear are bound to occur. In engine bearings you have a soft metal made of babbitt. It is designed to accept a very heavy load—the explosion in the cylinders, and with this force, plus others which may total many tons, it must not touch the crankshaft, which it supports or on which it runs. The oil film is the only medium keeping the bearing surface and the crankshaft journals or crankpins separated. Under high-speed conditions that oil film may break down for a few seconds at a time, perhaps for thirty seconds. The driver does not know of it because the wear is slight for that particular failure, but it is the multiplication of these small lubricating failures that eats the very life out of the bearings and the crankshaft.

You must change the oil in the crankcase frequently—say every 500 miles. You must operate the engine at no time at its maximum speed and full load. It should be treated with some consideration if you want to make it last a long time and cost little to operate during that time.

The fan bearing of an engine operates at higher-than-engine speed and despite the usual belief there is considerable load on it. It is the first engine bearing to show signs of wear and needs but slight neglect to make it noisy. Closely following the fan bearing come the generator bearings, which also operate at high speed. Oil is used for lubrication of the generator bearings, the feed being through a small snap-cover cup or through a ball valve. Neither provides the ideal method to make it easy for the owner to oil these bearings, especially when the oil can filler spout is too large to get into these oil openings. The result is that these high-speed parts run dry and consequently the generator aramture soon strikes the pole pieces. This produces a loud, squeaking noise at first, then a knocking sound. By that time it is too late for oiling and the owner is taxed for a new armature, perhaps a new generator.

The clutch operates always at engine speed, so does the transmission and propeller shaft, yet how many owners ever consider the universal joints on this latter shaft? Here are parts which are always moving because of irregularities in the road ever so slight. The joints must give universal action and at the same time turn the shaft around—drive the entire car. Under normal speed conditions these joints if lubricated will last for 20,000 miles, but under high speed and high load conditions they will show signs of wear in 10,000 or less. If not lubricated and run at high speed they may go to pieces altogether in 500 miles.

In a test event not so long ago a car manufacturer operated his new model for a long continuous period to find out just what the car would do. He discovered among other things that the universals would not hold grease for more than 1,500 miles. He discovered this when one of the universals started to knock, due to lack of grease. In previous tests these same joints showed fine results, but in this test the car was run at sustained speed, while in the previous ones there were interruptions every few hours. This is a very important point to be considered and is easy to see when the analogy to a human being is used. With a fair amount of recuperative sleep and rest at definite intervals, the man will live longer than he would if worked at high speed continuously.

Gearing in a motor car, such as used in the transmission and rear axle, must run continuously in a bath of oil. The housings in which these gears operate are supposed to contain a thick oil up to a certain level, and the gears in revolving pick up this oil. An insufficient quantity of oil in the housing is thrown about by centrifugal force and hardly wets the gear teeth, to say nothing of the bearings. A good guess would put axle and transmission troubles due to this cause at 50 per cent. But insufficient lubrication is not all. Heavy greases often are used for these units and this is utterly wrong.

Grease packs itself on the sides of the housings and permits the gears to run in a channel cut by them through the grease. A gear oil, or a special gear compound is suggested. The owner should take into consideration a normal leakage from the housings an dalso loss through breaking up of the lubricant. The housing levels on most cars should be checked at least once every two months, on some makes once a week is necessary because the housings simply will not retain the lubricant.

When driving on a tour it is far better to run at twenty miles per hour and retain it, than it is to speed up to forty-five miles per hour when he road permits and drop back to fifteen because you are tired or because the road is bad There is never any occasion for high speed, or at least there should not be. The fact that you wish to meet a certain boat or train may urge you to open the throttle, but then you must be satisfied with early repair bills if this sort of practice is made a general thing. Many owners of good makes of cars wonder why it is that the particular one they own is "no good." "Why, the bearing needed adjustment in 3,000 miles, and I had axle trouble at 4,000 miles." Speed, sustained speed did it in nine out of ten cases. The cheapest sort of a vehicle, if sanely operated, will last for many years more than the average now does, if it is driven at a reasonable maximum speed.

PILOTS

ERNEST BLACK—General manager for the Oldsmobile Sales Company, Washington distributor for the Oldsmobile. Mr. Black who has been identified with automotive trade for several years is making sales records for his firm and maintaining the sort of service that lifts a firm above the average. Black is exceptionally well fitted for his position by his thorough experience in every branch of the automobile business. He is the clean cut, businesslike sort of a man you would expect to find as pilot of an Oldsmobile organization.

AUTOMOTIVE ACCESSORIES CO. IMPROVES STATION

Extensive improvements have just been completed by the Automotive Accessories Company, which conducts a large filling station and accessory business at the northeast corner of Tenth and E streets northwest. A large tile canopy has been placed over the pump platform and several oil and gasoline pumps have been added, driveways have been widened, and other improvements made to facilitate the filling service. This well-known downtown station is in charge of Henry J. Sterzer. William T. and C. E. Galliher and Allan E. Walker are the proprietors.

RAM'S HORN ROAD TO BE PAVED SOON

Contracts Let for Resurfacing Highway From Hyattsville To Washington.

Contracts for the paving of the Ram's Horn road leading from Hyattsville to Washington have been let by John N. Mackall, chairman of the Maryland State Highway Commission, according to reports received by officials of the American Automobile Association.

The paving of this road will fill a long-felt want to District motorists who have occasion to visit Hyattsville and other nearby points of that section, in that it will undoubtedly relieve traffic on the Bladensburg road and will make it possible to reach Hyattsville without crossing the dangerous grade crossing at that point. This road will also enable the residents of nearby Maryland to motor to the northwest section of Washington without passing through the congested downtown traffic of this city, and will undoubtedly increase travel between these two sections.

Several months ago officials of the A. A. A., together with city officials of Hyattsville, made a trip of inspection over the roads of this section and approved a movement inaugurated at Hyattsville for the paving of the Ram's Horn road. Before any official action could be taken, Commissioner Mackall acted. Owing to a shortage of transportation, Mr. Mackall will be unable to get the work finished this year, but he promises that it will be completed early next spring.

The Mut Motorist

The following article was awarded first prize in a recent "Knocker Contest," conducted by the Syracuse Journal:

I knock the mut motorist.

He leaves the curb without signal—stops suddenly in traffic without warning.

He uses his horn instead of his brakes in a street filled with playing children.

He steals places in traffic and "cuts in" regardless.

Overtakes and passes another car near the brow of a hill or on a curve.

Stops his car on a curve in the road without getting out of the roadway.

He hogs the road.

His lights are blinding, nor will he dim them—damn him.

He drives with a snoot full.

He is a curse—an abomination—an affliction to humanity.

I knock him.

License Tag 700,000.

The automobile division of the Pennsylvania State highway department recently issued license tag No. 700,000 to Gov. William C. Sproul. He has five other cars, which carry license numbers 7, 77, 777, 7777 and 77,777.

Look for Lost Parts.

When a sound is heard as if something has fallen off the car, it is best to stop and go back and investigate. Tools and other parts are sometimes left on the running board. Tires, license plates, lamps, and many other parts of the car easily work loose and fall off.

Of the motor vehicles produced in the United States this year, approximately 70 per cent will sell for $1,000 or less.

LOS ANGELES COPS USING 54 MOTORS

Dodge Brothers Car Is Selected to Aid in War on Criminals.

Ambulance, shotgun work, pawnbrokers squads, plain clothes activities and traffic work will be handled through the latest acquisition of fifty-four automobiles which has just been made by the Los Angeles police department. The demand for speedy movement necessitated the adoption of the automobile in all police activities and after this came about the winnowing out process to determine the best machine adapted for the various kinds of official work.

Through the order given by the Los Angeles police department for fifty-four Dodge Brothers motor cars, the local guardians of the peace, have placed their seal of approval upon this make of cars. The uses to which they place an automobile are varied in the extreme and leave no question as to the service demanded.

BUYERS TURN TO CLOSED MODELS

The first touch of autumn usually ushers in the closed-car selling season. Not so this year. According to the Frye Motor Company, local disttributors for the Liberty Six, closed-car buying started the latter part of August and continues stronger every day.

In fact, the same experience is being reported by Liberty dealers the country over and the factory is now rushing plans for production of its closed models. This may be accounted for, in part, by the beautifully designed new Commander Coupe which was announced some weeks ago, and which caught on with the motoring public immediately.

The car is considered to be one of the smartest of the two-passenger closed models ever produced, and this together with the information that it will have a companion in a new four-passenger coupe, soon to be available, is bringing many buyers to the Liberty salesrooms.

WATCH HEAT

An engine heat indicating device is quite an essential piece of equipment during cold weather, and almost necessary if a radiator shutter, cover or water thermostat is used, so that the driver may know just how warm the engine is running. Since so much depends on engine heat, every car ought to be equipped with a device of this kind, whether the type that is mounted on the radiator cap, or the newer form in which an indicating dial is mounted on the dash.

The thermostat in the water line is a means of obtaining automatic engine heat control and is now made in several forms for installation on any make of car.